

CLAIMS:

What is claimed is:

1. A method of operating a semiconductor processing system comprising:
  - determining a first state for a wafer;
  - determining a second state for the wafer;
  - determining a process recipe to change the state of the wafer from the first state to the second state;
  - performing the process recipe on the wafer, wherein the state of the wafer changes from the first state to a processed state;
  - determining when the processed state is not the second state; and
  - updating the process recipe.
2. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the first state comprises measuring at least one of an optical property, an electrical property, and a physical property.
3. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the first state comprises receiving at least one of optical data, electrical data, and physical data.
4. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the second state comprises measuring at least one of an optical property, an electrical property, and a physical property.
5. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the second state for a wafer comprises receiving at least one of optical data, electrical data, and physical data.

6. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the process recipe comprises feeding forward at least one process recipe based on the first and second state of the wafer.

7. The method of operating a semiconductor processing system as claimed in claim 1, wherein the determining of the process recipe comprises predicting the second state using the first state of the wafer and a process model based on the process conditions.

8. The method of operating a semiconductor processing system as claimed in claim 1, further comprising:  
determining differences between the processed state and the second state; and  
feeding back the differences.

9. A method of operating a semiconductor processing system comprising:  
determining a first state for a wafer;  
determining a second state for the wafer;  
determining a predicted state for the wafer, wherein a predicted process recipe is used to change the state of the wafer from the first state to the predicted state;  
determining a modeled state for the wafer, wherein a process module is used to change the state of the wafer from the first state to the modeled state;  
determining a measured state for the wafer, and  
determining a recipe for changing the wafer state to the second state using the first state, the predicted state, the modeled state, and the measured state.